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MARKETS, MARKET STRUCTURE, AND THE INSTITUTIONAL ORGANIZATION OF AGRICULTURE

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1. The Market -- Mysterious Sector of Economics
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3. The Role of Government Service in Marketing
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I

The Market -- Mysterious Sector of Economics

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Rules of human behavior set limits to the use of hyperbole, even for the purpose of advertising one's product. The FTC restrains tooth paste manufacturers from promising too outlandish powers for their dentifrices and the SEC has moved to checkrein market tipsters as to their most fanciful confidences. I hope to escape indictment for my hopefully tempting but admittedly misleading title. Not only the market is mysterious. Certainly your Dr. McNeely lost no more than 15 seconds in reminding me that mystery shrouds all economics. As the role of professors is to pierce mysteries, it is understandable that they should uniformly assert its non-selective existence.

And yet I persist in believing that the marketing sector brings more difficulty in comprehension, both inside walls of ivy and on the street, than does either production or consumption. Linear programming in production economics is awesome but I think I know that it concerns only such matters as combining soil, labor, fertilizer, and herbicide to optimum effect. Similarly, the idea that consumers are subject to progressive satiety in consumption is understandable by anyone who sometimes overloads his cafeteria tray. Marketing is something else again. The physical part such as transport and retail buying we can understand, and in total is perhaps more impressive than mysterious. But the question of how the marketing system arrives at price puts us quickly in the realm of abstraction, which always is most demanding on the human intellect. As a side comment, the human participants in price-making are the first to confirm this judgment. They are quick to declare themselves innocent of any causal role in the pricing process, saying that they serve solely as benign (but necessary) functionaries.

Even if college and government economists may not see much mystery in marketing -- though I doubt they fail to -- farmers surely do. Most marketing of farm products takes place beyond the farmer's gate and out of his sight. For this reason farmers have long not only conceived of marketing as a mystery but have been suspicious of it.

Price-making in marketing confounds us also because it is asked to do so much. We subscribe to the principle of a self-regulating market system. What a profound faith that is! For a market mechanism to carry out well its three tasks, those of regulating the employment of resources in production, distributing physical output to end users, and thereby allocating the common output among all constituents -- that is indeed an overwhelming functional assignment.

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The notion that a free and self-regulating market economy can perform such a heroic role is recent in the history of the world. Repeatedly I am reminded of the human tendency to regard what pre-dates one's consciousness as an eternal datum. Ironically, this moves us not to perpetuate it so much as to disregard if not disparage it. Yet the market system that our age inherited is relatively young. Throughout most of history there was no occasion for it -- there were no broad geographic areas of intimate exchange in trade that required an efficient, interlocking market mechanism. Instead society through countless early centuries was cellular in structure. Each cell, whether feudal, tribal, or priestly, was nearly self-sufficient. Within each there was paternalistic organization, and production and exchange of necessities of life largely followed conventional rather than economic rules.

Inter-regional trade in those ancient times was largely confined to such select items as dyes and salt and spices for food -- the latter serving both to preserve food and to make it eatable when no longer preserved. Although the vital character of this trade dare not be discounted, its aggregate value was not terribly great.

Heightened production and clearer lines of commerce brought a gradual conversion to an exchange economy. For many more centuries, transactions in exchange typically were of consumption goods. Extensive exchange of the factors of production is a modern phenomenon; indeed, as I will emphasize in a later lecture, in the agriculture of the United States its crescendo began during the lifetime of persons of my age. Throughout the long Middle Ages and the Enlightenment which brought them to an end, most exchange was of finished goods ready for use by the consumer.

I cannot resist digressing to remark on how the nascent institutions of trade related to the organization and customs of society. Special regard and protection was early shown to the process of trade. Benevolent protection was accorded by both ecclesiastical and civil authorities. In Europe during the Middle Ages the trading center in consumer goods was the fair. It was usually staged at a crossroads or a waterway junction. The place was given distinctive marking as by posting a cross, a glove, crossed swords, or some other symbol. Protection was promised all participants, often extending to a designated area such as a circle of a radius of one mile. There were provisions for monetary exchange. It was a favored spot. Moreover, the history of cities commonly cites the fair as one of their origins, alongside its genesis as a medieval version of Civil Defense shelter and as a religious center.

Not the least of characteristics of medieval market fairs was the free entry to them. Ease or difficulty of entry to a market remains to this day one of its meaningful features.

Early scholars who developed the discipline of economics from its antecedents of political economy and moral philosophy were principally concerned with valuation. They naturally centered their attention on valuation of consumer goods -- primarily foodstuffs. They granted without hesitation the mystery of the process, although the arrival of boatloads of bullion

from the New World aided their instruction as to the general price level. They conceived of the idea of value as reflecting the amount of labor incorporated in producing a good. For consumer goods turned out in a single process, this wasn't a bad theory. It was an understandable theory. Recognition of varying qualities of labor, however, quickly returned it to the realm of at least partial abstraction.

Furthermore, the system of exchange of consumer goods gradually took on an atomistic form. Certainly individual consumers, then as now, met the test of independence and smallness. Production was small scale; and as land tradeways opened up, putting market areas in closer touch with each other, the ingredients for an atomistic market function came into being. It thereby became possible to replace the medieval doctrine of a just price -- possibly an early antecedent of an administered price and the kind of price concept that fits an imperfect market -- with the notion of a price arrived at through the interplay of impersonal market forces. This latter concept, as we all know, was widely heralded and has endured to the present day.

This is not to say that an atomistic market system naturally grew out of its setting, but surely the setting was necessary to it. There had to be a technological base before the concept of exchange economy could have meaning. There must be markets before there can be exchange on them.

An aside, touched with irony, is that as soon as the geography of trade permitted an atomistic exchange economy, industrial forms came into being that interfered with it. A question which agriculture faces today is whether its new institutional forms will interfere with retaining a satisfactory exchange system for farm products.

But economic affairs are shaped not only by contemporary technology but also by the mores and goals of the society of which they are a part. The market system that emerged by the sequence I have described eloquently incorporated the concepts and values of its age in history. Its unitary ("atomistic") organization was faithful to post-Reformation emphasis on the worth and self-determining role of the individual. To price the products of labor according to the amount of labor expended surely manifested the principle that each person should be rewarded according to his deserts -- that is to say, his performance. This is the kind of philosophy, or theology, that puts the individual on his mettle. It is a demanding and even an uncharitable philosophy, and for these reasons it was never adopted in absolute form. Also, it was softened with admonitions to personal benevolence. Yet it probably was suited, at some human cost, to manpowering an industrial revolution and the exploration of new continents.

I regard these as the key concepts of the time, more relevant than the doctrine of laissez faire. The latter has been advocated more often than employed. For example, the desire to let products be priced by the market instead of the sovereign did not lead to abandonment of medieval safeguards of the market place. Rules of trading, to facilitate the process of pricing to ends of fairness and equity, were not withdrawn. They remain with us today.

The neat formulation naming price of a good as properly the value of the labor which went into producing it was shaken when land came to be regarded as not the source of all surplus value (as asserted by the Physiocrats) but as a non-productive claimant in distribution, one that gains its claim from its scarcity and variable quality. (No subject in economics, by the way, is more fascinating than the history of attitudes toward land. Land is the uniquely fixed resource. Ideas regarding it still occupy the thought and fancy of scholar and layman.)

I shan't take time to enumerate the successive appearances on the doctrinal scene, such as utilitarianism, diminishing marginal utility of consumption, and others. Price necessarily took on ambivalence, bearing on both consumption and production. And among neoclassicists it came to be seen in a more functional role, as an agent that brings equilibrium between the forces affecting production and consumption. As a return to factors of production it was transposed into a return to all factors -- land, labor, and capital. This new version of reward for contribution made doesn't ring as convincingly true as did the original formulation of price as a proper return for expended labor. It doesn't fit our intuitive values so well. It is easier to think of economic justice in the payment of wages to workers than of interest on a mortgage. Yet it serves to show that economic and philosophical thought about price, true to its antecedence, retained a considerable ethical content.

Recapitulating briefly, I have tried to show that the idea of a market arose as it became possible for many buyers and sellers to come together, the buyers being typically final consumers and the sellers original producers. Price was seen as the honorable and proper reward for the personal effort in production.

I have noted the complication that arose when it became necessary to recognize productive factors other than labor. But this is not all. The other big change in the nature of the market and the functional role of price has to do with the roundabcutness of production. As modern industry grew, and specialization with it, more and more of all transactions were not between producer and final consumer, but were transfers between successive stages in production. This transformation has applied as much to agriculture as elsewhere. Indeed, only a few fruit and vegetable farmers near large cities still sell directly to consumers. Not only is much produce sold to a middleman, but the buyer is as likely as not to be a processor, not merely a distributor. The economic factor in his demand is not described by the diminishing marginal utility of his consumption. It has become necessary to develop a new theory of demand as it is evidenced by intermediate agents. Such a theory is still being grappled with.

Intermediate buyers of farm products tend to be specialized and large scale. Thereby is the old numerology upset. As I will stress subsequently, many value judgments in marketing, even as those of democratic political processes, pin much faith in the safety of large numbers. This attitude is a part of our Greek heritage. Originally, many small producers sold to an even greater number of consumers. Now we have a

sizable number of farmers selling to a limited number of marketing agents who in turn sell to a huge number of consumers. The previously shapeless configuration has been constricted into an hourglass effect.

And so today we face the dilemma of adapting a system of thought derived from an earlier era of simple exchange between many producers and consumers to a complex system of exchange in successive stages of production and distribution -- at some of which we find competition among the few rather than among the many. Nor do we invariably rely only on adapting previous theory to the new situation. We may also take steps through the mechanism of government to mold the situation to fit the normative concepts we have inherited.

The dilemma is all too plaguing to market analysts and researchers. A traditional viewpoint has been to regard the marketing system as a set of mirrors or prisms which convey a diminishing-utility (i.e., an elastic) consumer demand back to earlier stages in marketing and ultimately to the producer. This can be done with some efficacy for products that undergo little change. For processed products the system breaks down. For eggs the farm demand is fairly seen as the farm equivalent of consumer demand. For soybeans, it would be erroneous to regard the farm price as a simple farm equivalent of demand for (oil-based) paint.

Repeatedly in my writing I have scored the attitude which regards the marketing mechanism as a passive transmission medium, inert and innocuous. It is far more accurate to regard it as an active sector. A more recent tendency has been to consider marketing as itself a productive area. It employs factors of production and it turns out goods or services or both. This is, I think a far more accurate conceptualization, but it plays hob with simple theories of price determination for farm products.

No society dare be indifferent to the efficacy of its marketing system. Certainly ours is not. The recasting of the market to embrace not only consumers' goods but producers' goods and goods in transit has put both our theories and our public policies to the test. The U. S. Department of Agriculture goes to great length to measure marketing performance. Statistical data on marketing margins have long been collected for all major farm products. The work has sometimes been justified on grounds that the data would tell us whether farmers get a fair share of the consumer's food dollar. Useful as they are, they do not of themselves yield any evidence for such a judgment. On the other hand, their greater worth is in telling us something about the nature of the pricing process for each farm product. For example, pricing of a product having a narrow farm-to-retail margin and undergoing little physical transformation is in fact dominated by consumer demand. For a product returning only a dime out of the dollar and transformed beyond recognition, price at the farm bears only a minimum relationship to consumer behavior. Economic theory for agriculture can suffer from any over-generalization that fails to make these distinctions; and good market-margin data help toward making them.

Nor does another common statistic, reported profits of marketing firms, yield much better judgment as to the performance of the marketing system. Apart from arbitrary accounting methods, the tendency to build normal profits back into capital structure or even into salary scales for executives precludes any highly accurate significance from profit rates.

Among the better approaches to studying the efficacy of the marketing system for farm products, in my judgment, are those which are directed to each stratum separately. Definitive work can be done more readily stratum-by-stratum than in comprehensive studies.

Finally, we frequently take recourse to structural analogy as a means to making value judgments on our marketing system. That is, we compare actual market structure with the competitive model. A model for perfect competition has been described in detail in economic literature of this century. The goodness or badness of a marketing sector is then estimated according to the extent to which it corresponds to, or differs from, that model. I do not at the moment either approve or disapprove of this technique. It too has its uses. I only remark that the increasing concentration in marketing, together with increasing product differentiation, strains the application of this methodology. The hourglass is getting an ever narrower neck.

Perhaps it can be said, at this point in this paper, that if marketing was not mysterious when we began it is definitely so now. Let me try to clarify a bit before adding to its complexity again in a final note. Our entire tradition of concepts of markets and exchange has been derived from an earlier era when most exchange was of consumers' goods. In agriculture we are now concerned more and more with exchange at intermediate stages in the marketing sequence, and we are struck with the absence of the protection of large numbers in the market, as once characterized the transactions between producers and consumers.

History, it is said, moves in cycles or circles. The trend toward vertical integration, now so prominently on display in broilers but existing elsewhere too, is in one sense a kind of reversion to an earlier system. For it once again combines onr or more stages in production and marketing within a single management combine. In its logically ultimate form it would integrate all stages up to final sale to the consumer. This puts market exchange back where it was several centuries ago. But there is a difference now compared with then. Earlier, the integrated functions were performed by a single management unit, be it tribe, feudal barony, or independent yeoman. Now, integration typically links separate agents, and it does so by contractual relationships, including contractual wage employment. By no stretch of the imagination does there exist within an integrated structure an impersonal market matching up many buyers and sellers. We are closer to the feudal or tribal system of making transactions within the cellular unit according to conventional relationships rather than market exchange. Both economists and government administrators are considerably baffled by this new phenomenon, which replaces markets with negotiated contracts. How does the U. S. Department of Agriculture, for example, protect the rights and service the needs in the marketplace of a farmer who no longer sells in a marketplace.

Without attempting to answer the question, may I conclude by calling your attention to the concept of bargaining power. This has been neglected far too long, in my judgment. Even now, it is being forced into the lexicon of economists by the increasing frequency of its employment in the real world. Bargaining power is not inapplicable to the classic competitive model. However, it is less needed there. Bargaining power is typically a term of the imperfect market, not of the perfect one. This is true because of two reasons. First, by definition the perfectly competitive model featured many buyers and sellers in close communication with each other. Each buyer (or seller) found protection of his interests in his access to alternative sellers (or buyers), and not in his skill in negotiation as such. And secondly, the theoretical economists who devised the competitive model tended to think of price as emerging in exchange between original producers and final consumers. Bargaining power, on the other hand, has come to be a concept of a market of traders. Interposing of market agents between producer and consumer gives more occasion for negotiations by use of bargaining power. 1/ I think it likely that as the perfectly competitive model is departed from more and more, due to either fewness of firms horizontally or telescoping vertically, we will find it necessary to resort more frequently to concepts of bargaining power. They will be a part of classroom instruction, research, and public policy-making with respect to the economics of the marketing of farm products.

Let me summarize in a manner to set the stage for the papers that follow. Marketing performs a dual role of carrying out physical (technological) services, and of making prices and thereby not only rewarding marketing agents but regulating an economy. Theories of price-making largely derive from those formed in a simpler world. Today's world differs chiefly in the roundaboutness which characterizes distribution, with several intermediate stages interposed between producer and consumer; and in the physical transformation which takes place during marketing. These changes are great enough that we must take account of them when looking at and evaluating our present marketing system.

1/ It is entirely possible, of course, for consumers to buy by haggling. Images of Oriental hawkers of teapots and tapestry come to mind. Almost certainly, those bazaars present less than a "perfect" market. More significantly, modern retailing in the United States, with its affixing of firm, non-negotiable prices, offers no opportunity for haggling by the final consumers.

Market Structure -- Bigness and Smallness, Order and Chaos, Exploitation and Equity

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We are conscious these days of theories of economic development. Usually a theory describes successive stages in development. Applied to a given nation, it gives rise to question as to whether it hops, skips or jumps from stage to stage, or leapfrogs. One contribution I would make to someone's theory is that a nation's concern for its economic processes also advances according to a pattern. A nation's early attention, both scholarly and technological, is to production. Only as a nation finds it can afford time and resources does it extend its interests and efforts to marketing. In both the Soviet Union and Argentina, my two areas of foreign experience, I noted that developments in marketing lagged farther behind the United States than did those in production. Slow progress was to be found even in the handling of produce on the farm. In Soviet Russia I saw wheat being harvested by a modern combine but unloaded from trucks by women using wooden paddles, with which they also tossed it into the air to winnow it. Dairy cows were well cared for but the milk produced at great cost of feed and labor was separated at the farm and only the cream delivered to market. Much of the skim milk was fed to livestock. Similarly in Argentina, a fertile land producing wonderful beef cattle of English breeds on pastures that are among the world's best, the death losses in getting slaughter steers to market are incredibly large.

And so we can take some pride in our progress in marketing achieved to date in the United States: progress in the physical processes of marketing; and progress in making the market system perform better its price-making function. I think that agricultural economics as a discipline has addressed itself more patiently in recent years to the complex issues associated with the word "marketing." We haven't removed all mystery from marketing yet but the fog is less dense than it once was.

We have even invented a new nomenclature. Bain, Sosnick, Clodius and Mueller are principal advocates of a trilogy of market structure, conduct and performance.

What we really face, it seems to me, is the question of how to form a critical judgment and make public policy with respect to a marketing system that is so huge and complex, so baffling, so replete with contradictions as is the system of marketing for farm products. How can we reconcile conflicting goals? If indeed there is economy in mass handling, how can we take advantage of it without circumventing the competitive counterpoise essential to determination of prices? Can some small firms

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survive if others are big? What is market power? If it exists among market firms, must it be matched by countervailing power in the hands of farmers? Who looks out for consumers?

Furthermore, the peculiar nature of farm products and their production adds to the complexity. Farm products of uncertain quality are sent to market from 3½ million farms in unpredictable quantities according to a timing that reflects the combined wills of a just God and an errant man. Yet the consumer insists on having a plentiful supply of foods of all kinds regularly available as close as the nearest supermarket, attractively prepared in a package that will open with the first tug on the ripcord. Consumers also want reliable, standardized quality. They are becoming vocally insistent on safety and protection in foods. They have even lost most of their seasonal patience; they want June foods in January, cantaloupes in March, and oysters in months without R's.

Furthermore, consumers are pretty well getting what they want. It seems to me the technological and managerial achievement represented by the marketing of foodstuffs is underappreciated. It is deserving of rhapsody.

Farmers understandably resist constraints on their freedom of choice as to what to produce and when to market it. Yet they are themselves not entirely happy with the volatility of their rewards. The increasing commercialization of agriculture is one reason. Farmers have more bills to pay, and their creditors make no concessions to the in-built inconstancy of agriculture. Mr. Clarence Adamy, executive vice-president of the National Association of Food Chains, speaking in February at the fact-finding conference of the Institute of American Poultry Industries, declared that an industry such as poultry, "which purchases a high percentage of its production inputs, cannot afford and in the long run will not tolerate an unpredictable, highly fluctuating market."

More than that, farmers have personal aspirations and obligations too. I have in my office a wall picture, given me by one of the trading stamp firms -- the only "premium" I have ever collected from stamps -- which contrasts the chic Mrs. Oberwise of Illinois, a fashionable farm wife of 1960, with the plain and cheerless farm couple of Grant Wood's American Gothic of, I believe, 1930. Farmers want their children to go to college and they try to build up annuities or investment equities for their own retirement. About the only variable obligation left is the income tax, and even that seems to fall due inopportunely.

And so in the face of a contrast between a supply of farm products that is variable as to form, time and place and a demand that is becoming as exacting as the commands of the old Bourbon Kings, we place a heavy burden on the marketing system indeed. We are increasingly unsparing in our demands and perfectionistic in our judgment upon it. There, as the classic line reads, "is the rub." Most babies would get born without obstetricians and most farm products would be marketed without kibitzing by college or government economists. But nowadays we want marketing also to achieve goals of stability, efficiency, equity. And so we try to climb Olympus.

If there is a central theme to the remarks that follow, it is my concern that physical order and efficiency will be sought to the neglect of considerations of fairness and equity. As a setting for price-making the marketing system is imperfect, by the neoclassical definition of that word. If it were to become too imperfect in its price-making function, however efficient it might be technically, it would inevitably create serious repercussions. It is doubtful that the public at large would tolerate for long a marketing system that was seriously oppressive or repressive. Central government finds itself urged to act when the private sector fails to perform acceptably.

Surely size, concentration and dominance of individual firms will command increasing attention. We are sufficiently conscious of economy of scale to accord large firms some concession. We may even acknowledge more economy of scale than exists. According to the Goodmans, writing in Communitas, "People imagine, as articles of faith, that big factories must be more efficient than small ones." Yet not every firm that asserts its superior economy possesses it. Potentialities of economy of scale vary by industries. Moreover, the dozens of economy-of-scale charts I have examined seem to have a characteristic configuration. In them, cost per unit typically decreases rapidly up to a moderately large size of firm, but it tapers off much more slowly for the extreme sizes. The moderately large size may be a much better choice than the small, but the giant version may offer at most only a little more economy.

Furthermore, many economy-of-scale studies have a serious flaw. They deal with internal economies only, to the exclusion of external. For example, they often price the raw product at a constant price irrespective of its origin. Yet the longer the distance hauled, the greater are the resources incorporated in it as delivered -- resources that could be saved if the plant were located closer to the seat of production. In computing the merits of assembling products from a wide area for mass processing, it is erroneous to fail to correct for the additional resources expended in the process of assembly -- or for any other external diseconomies of scale.

Many of the attractions of huge market firms arise not from physical efficiency alone but from market power. Market power is the kind of term that everyone uses but no one defines. One friend of mine asked me, almost imperiously, "What do you mean by market power? Price is determined by supply and demand, isn't it?" Another friend said just the other day, "Suppose the farmer gets more market power and raises price, where does the added price come from?" Just about all my friends seem to be querulous about market power.

Some economists equate market power with the several forms of imperfection in market structure. The two are related but are not the same. That is to say, they are in different logical systems. Perhaps the most unsophisticated trader can define market power perceptively. He would explain that it is the ability to say, "Take it or leave it." Now it is easy to display such bravado when there are many potential buyers. When a seller is stuck with a limited number of buyers he is likely to be more circumspect as to his terms of negotiation. Similarly with a buyer who can find few sellers.

But surely the nature of the product and of its demand have much to do with market power or, to shift to another phrase, with bargaining power in marketing. Let us assume that there are few buyers and few sellers, so that individuals who enter negotiation feel some obligation to work toward a decision. They can't turn freely or too hopefully to other prospects. Under these conditions a seller is in especially weak bargaining position if his commodity is perishable and must be disposed of fast. As another example, a seller who has committed his product irrevocably to sale to the highest bidder essentially relinquishes all bargaining power in the process. Similarly, buyers can find themselves in weak bargaining position if they have urgent needs that must be met.

I wish I could present a consistent theory of bargaining power. In a moment I will offer a few tentative comments. But empirical examples may carry more meaning.

For years economists have declared that central marketing of livestock (and of other products) meets the classical ideal in marketing. In central markets there are many buyers facing many sellers under carefully organized and supervised conditions, with auxiliary services provided such as market news to speed communication. Yet as soon as motor trucks and passable country roads made a change to direct marketing possible, many producers of livestock turned enthusiastically to it, contemptuous of the frowns of theoretical economists. Why did they do it? Dr. Geoffrey Shepherd of Iowa State and I, among others, have offered a reason. We point out that livestock placed on sale at a distant central market are irretrievably committed to that market for immediate sale there. It is costly even to hold livestock overnight, and returning them to the farm is almost unthinkable. The farmer's bargaining power is not very strong. When a farmer sells at the farm, his power in bargaining is much greater. That is, it is greater until such time as the cattle are held too long and become over-weight, in which event bargaining power disappears fast. A wise farmer doesn't let his cattle reach that weakly-bargainable condition if he can help it. And not infrequently, when a farmer finds himself unsuccessful in selling at the farm and the cattle approach a condition requiring immediate sale, he shifts to selling on the central market. For the condition of cattle, an element in bargaining power, bears on the bargaining transaction at the farm but not on sale at a central market, which is essentially auction in nature. (I am not referring to quality discount, which is a wholly different phenomenon and is identical irrespective of place of sale. I speak solely of imminence of deterioration of quality as an urgency element in bargaining.)

Perishability is an especially important consideration in bargaining for price-making when it bears more on the seller than the buyer. Thus the selling of perishable farm products to buyers who convert them to less perishable form always puts the seller at a bargaining disadvantage. It is no accident of history that many cooperative arrangements long ago came into being in the marketing of fluid milk and of fruits and vegetables for fresh use. How could a fluid milk producer in Montgomery County, Maryland dicker with a distributor in Washington over each day's milk supply? We can conclude further that the adoption of the marketing agreement and order technique for those products is no mere happenstance. It is solidly rooted in economic principles.

Let me hasten to correct any impression that weakness in bargaining power invariably rests with the farmer, or the seller generally. In today's highly ordered world it can plague the buyer too. For example, my work and that of Engelman, Kutish and others seems to show that livestock slaughterers can find themselves at the mercy of a sudden and unexpected drop in supply of live animals. They may have either contractual commitments or non-contractual obligations for delivery of meat. They may have hired a work gang that is paid a minimum wage irrespective of how much time it may be unoccupied. Under such circumstances, when market supplies of livestock suddenly diminish, packers sometimes bid up the prices of the available supply to a very high level.

But, it may be countered, this is only a response to the reduced supply, a manifestation of a demand curve -- an inelastic one in this instance. That there is a relation to a demand function is obvious. But the price finally paid is influenced by considerations unrelated to intrinsic value of the product to consumers. Indeed the characteristic feature of such periods is that packers push prices higher than are justified by retail price. They bid some of their usual price margin into the paying price to farmers and they operate at negative cutout margins, that is to say, at a loss.

As still another illustration, it is alleged that when chain stores buy fresh meat from packers by the bid-and-acceptance method they exercise unwarranted market power. One's impulse is to dismiss the charge and regard the practice as just another method of negotiation. But is it? My reasoning goes as follows: By classical theory, sellers have individual upward-sloping supply curves and buyers have downward-sloping demand curves. Where the industry curves intersect determines both price and volume of trading. The price so arrived at would be higher than all those offered by sellers represented on the arc of the supply curve to the left of the point of intersection. From sellers' standpoint, price received is the marginal price buyers must pay in order to get their desired (or equilibrium) quantity. Yet the practice in bid-and-acceptance, in its most extreme form, is for buyers to impose on all the sellers the lowest price it can obtain from any seller. The price is thus not the marginal one at the intersection point, but the lowest to be found on the supply curve. I do not vouch for the prevalence of the bid-and-acceptance practice but insofar as it exists as described, it departs significantly from the classic concept of market price-making.

Generally, because of the nature of their products and the marketing methods they use, unless farmers are aided in some way they sell their products from a weak bargaining position. They therefore are highly dependent upon the competitiveness of demand. This is the principal reason, in my judgment, that both policy makers and economists for agriculture have long focussed much attention on the degree of perfection -- the classical definition of perfection -- on the buying side of the market for farm products. An atomistic agriculture selling perishable products without much power to withhold in negotiation is critically at the mercy of the market available to it.

(Incidentally, the pure form of the auction market, without provision for bidding-back by sellers, is an example of total dependence on the demand side.)

Since the market structure is changing so fast, it follows logically that farmers are and should be concerned about the implications of those changes. But before developing this subject I want to insert my comments on the theoretical aspects of bargaining power.

That bargaining power is related to concepts of elasticity of supply and demand is self-evident. The particulars of the relationship, and the distinctions to be made, are not so clear. Supply and demand functions have usually been thought of as, respectively, producers' production response and consumers' consumption. The former is customarily treated in terms of the production function and the latter as an expression of diminishing marginal utility of consumption. Further, theoretical economists have written at length about time distinctions: short-run versus long-run versus very-long-run.

But when we move the lens right back up against the eyeball and look at a single day's trading, we are not sure we are still in the same field. Contemporary theory is not adequate to tell us what we are seeing. On the one hand, the concept of elasticity of demand can properly be regarded as incorporating both the principle of diminishing marginal utility and the accessibility to alternate traders. But on the other, if we are selling to a dealer far removed from the consumer, who may be buying soybeans for multiple uses, what economic forces determine his market demand curve? The connection with the consumption function is remote. I counsel against spontaneous answers.

I think we are concerned with the nature of a market trading equilibrium. Most price theory relates to a production-consumption equilibrium. I see these as appreciably different. The bargaining power idea applies solely to the former, and in other ways each equilibrium takes on unique characteristics.

Not that the subject has been entirely neglected. Relative to it, years ago Dr. Mordecai Ezekiel advanced the idea of reservation demand, which is a demand function exhibited by the seller. He saw it as a means to convert the traditional supply concept to a market supply function. As another approach, I once attempted to adapt Edgeworthian indifference curves to direct negotiation in trading. Other references are to be found in scholarly literature. I have neither the time nor the present competence to develop this subject at length. I seek only to point out that economists, in their dedication to the principles of operation of the perfectly competitive market and variants thereof, have tended to neglect the questions of the economics of bargaining power in an imperfect market.

For many years, discussions as to "what to do about" imperfections in the market for farm products have taken two forms. One is to correct them, the other is to offset them. Without anticipating an answer, we should guard against any assumption that there can be a universal one. For if

careful study of the marketing system has any one single outcome, it is to warn against over-generalized conclusions. Yet we dare to hope we can find some principles that can be universally applied in the search for particular answers.

It was not my intention to neglect the theoretical formulation of structure, conduct and performance or to disregard the good work Sosnick and others have done relative to it. Nor do I mean to imply that a perfectly competitive market structure assures that all our welfare criteria as to performance are met. But I do declare, emphasize and underscore that once an imperfect market is significantly departed from we must call into use all the several criteria that enter into an evaluation of performance. To confine our concern to only a select few of those criteria can be damaging. The great merit of the structure-conduct-performance approach is that it becomes a nagging reminder of the multiple criteria we must always employ.

As a basic judgment -- call it an acquired bias if you choose -- I lean toward relieving imperfections where feasible. There are three big advantages in this course of action, in my opinion. One is that it permits the market to remain at least partially self-regulating. It minimizes the need for governmental surveillance or participation. In my scale of values that is good. Consistent with this, it makes data relating to welfare criteria more observable. However short of ideal the perfectly competitive model may itself be, its dimensions are on display for all the world to see.

Secondly, an open market has that virtue which conforms so well to the values subscribed to in a democracy, namely, ease of entry. Any buyer or seller can readily avail himself of an open market, be it roadside stand or huge terminal livestock market. Contractual or vertically integrated "marketing" by its nature may have elements of difficulty of entry -- certainly of short-term entry -- and may even approach practices of exclusion.

The third merit in choosing to relieve imperfection is that it accommodates our overall goal of making best use of resources. A competitively imperfect market may also be a wasteful one. Nor are usual statistics very revealing as to how badly they misallocate resources. I noted in another paper that excess profits readily became capitalized into capital values and executives' salaries, disappearing from the profit entry on a statement of income and expenses. (This kind of capitalization is as well oiled as the more widely heralded one of capitalization of support prices to farmers.) Supermarkets can show economies of scale in handling foods; yet my observation is that those economies are being offset at the present time by overbuilding of plant. I must insist that <u>some</u> kinds of advertising and promotion are cost-increasing without compensatory benefits. Which kinds pay their way in an overall sense and which are a net burden upon the marketing system is the kind of question that can only be answered case by case, not as broad generalization.

By no means do I imply that correction of imperfection is the only course to be followed, or that there is no justification for farmers' seeking greater bargaining power for themselves. I repeat that if I have any basic posture it is that of recognizing diversity in our marketing system as it exists and in policies for it. Nowadays there is much interest in countervailing power. Dr. Galbraith, by his coinage of that term, gave language and impulsion to the notion of meeting power with power -- of countering existing power with newly formed power. In an atomistic agriculture producing perishable or semi-perishable products, enhancement of bargaining power in marketing is essential and inevitable. But it should not be prescribed where it is not the best remedy, nor be expected to do more than it can do.

I was impressed with the conclusions reached by Dr. James Rhodes of Missouri when he made a study, as yet unpublished, while on a year's sabbatical with USDA. Generally, Rhodes believes that the potential benefits from the countervailing power approach can easily be overstated. In particular he takes a dim view of the idea that countering excessive power in the market by placing new power in the hands of farmers will transfer some of the marketers' excess profits to farmers. "The easy identification of changes in farmer bargaining power with countervailing power leads easily and incorrectly to the assumption that economic aid to farmers reduces the margins received by marketing firms." Instead, any increases in income to farmers obtained by pitting farmer bargaining power vis-a-vis the power of market firms comes "at the general expense of consumers." Furthermore, Rhodes thinks, if farmers and marketers were to gang up too much, consumers would ultimately rebel against both.

Rhodes concludes that "... market power problems in agricultural marketing ... should be attacked directly ...". 1/

If we may acknowledge that well-conceived efforts to improve the bargaining power of farmers can sometimes be useful and meet welfare tests of performance, we must also grant Rhodes' point that such a policy probably should not be chosen to the neglect of concern for imperfections in market structure. It is not very likely that the former will be a corrective for the latter.

The same argument can be carried one step further and applied to the economic function and justification for supply control in agriculture. I use that term in its proper generic sense, including in it all kinds of authority for cooperative supply control, not as a label for particular proposals. I hope to make clear in another lecture in this series that proposals for aiding farmers to regulate their output gain some credence by virtue of the mushrooming use of variable capital inputs in farm production. The new resources have given a wholly new complexion to the management function in agriculture.

1/ V. James Rhodes, Supply Management, Market Power, and the Derived Demand for Farm Products. Economic Research Service, U. S. Dept. Agr., March 1961 (unpublished).

In principle supply control could be an extremely powerful tool. It could be employed to adjust production in accordance with any rise or fall in the demand for farm products as gaged at the point it reaches the farmer. Yet that demand at the farm gate is determined by both consumer behavior and the workings of the marketing system. Demand at the farm may deteriorate as readily because of market imperfection or farmers' declining bargaining power as of the coquettishness or changing income of consumers. Parameters of demand at the farm gate are nondiscriminating as to their origin. Yet surely the case for production adjustment is better when it is made necessary by a genuine drop in final consumer demand than when it only offsets an imperfect and aggrandizing marketing system. If the latter is the cause, the wisest action would be to remove it. In the marketing of farm products there is still something to be said for letting, if not the punishment fit the crime, then the program match the problem.

Not to be omitted as a message of this paper is a call for more introspective analysis of the marketing of farm products. There is a standing line of salty humor in the Department of Agriculture which relates to the instructions given a subordinate to conduct an economic analysis. The language is, "Go to work and analyze this problem, and don't come back and tell me that the answer is that we need more research." I would be the last economist alive to deny the need for more research into the nature and operation of the marketing system for farm products. Yet I aspire to uniqueness in the language of my importuning. As I acquire more years of age and observation my conviction heightens that researchers can see only what their background understanding tells them can be expected to be present. Market researchers are so dyed in perfect-market pigment that they scarcely know what to look for or how to recognize significant data in today's market structure. I doubt marketing research can contribute much more to market understanding and thereby to market policy until applicable theories and concepts are improved. It may be unprecedented for a government economist to call for more ivory tower abstract cogitation, but in this case that is what this one does.

The Role of Government Service in Marketing

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The first requirement for the solution of a problem is to identify it accurately. In preceding lectures I have dwelt at length on the dimensions of marketing and on what I believe to be the elements of critical significance in marketing problems of today. Partly to escape becoming overly esoteric but also in order to convey a few ideas on program operations, I now add a few remarks on the government role in marketing.

Let me make the sequential relationship clear. Implications for government are not the only lesson to be drawn from the conceptual issues I have set forth. They are not necessarily the most important lesson. I am now not at the climax but the denouement of my sequence.

Furthermore, I believe with heart and soul that accurate conceptual comprehension must underlie the design of government policy. The great threat, the ever-present danger, in public administration is that it may become functional rather than formative, pedestrian and routine instead of imaginative and inventive, a job to be done in place of a mission to be accomplished.

Because my knowledge of it is more exact I will use my own agency, the Agricultural Marketing Service of the U. S. Department of Agriculture, as my reference point and source of illustrations. By no means do I intend this as any kind of bureaucratic chauvenism. What I have to say applies equally to many marketing programs of State governments, for instance, including those in which the AMS is involved cooperatively.

As background I cite the impressive phrasing of the two Acts which more than any others set the tone for the AMS programs. The Organic Act of the U. S. Department of Agriculture says that the Department's general design and duties shall be

> "... to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture, in the most general and comprehensive sense of that word ...".

The Agricultural Marketing Act, of 1946, which bears more directly on the work of AMS, contains these words of ambitious dedication:

> "The Congress declares that a sound, efficient, and privately operated system for distributing and marketing agricultural products is essential to a prosperous agriculture and is indispensable to the maintenance of full employment and to the

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> welfare, prosperity, and health of the Nation. It is further declared to be the policy of Congress to promote through research, study, experimentation, and through cooperation among Federal and State agencies, farm organizations, and private industry, a scientific approach to the problems of marketing, transportation, and distribution of agricultural products similar to the scientific methods which have been utilized so successfully during the past eighty-four years in connection with the production of agricultural products so that such products capable of being produced in abundance may be marketed in an orderly manner and efficiently distributed. ..."

The purposes held in view, though of more restrictive definition, may also be of interest. Activities are to be carried out to the

> "... end that marketing methods and facilities may be improved, that distribution costs may be reduced and the price spread between the producer and consumer may be narrowed, that dietary and nutritional standards may be improved, that new and wider markets for American agricultural products may be developed, both in the United States and in other countries, with a view to making it possible for the full production of American farms to be disposed of usefully, economically, profitably, and in an orderly manner. ..."

As I hope I made clear in previous lectures, the mission of the marketing system for farm products is not confined to getting the physical job done -- eggs from nest to frying pan or wheat from field to breakfast roll. To so view it would be banal. Rather, the marketing system is the nerve center of the agriculture-and-food portion of our economy. It is the cerebrum to the body, the governor to a steam engine, the Combat Information Center to a battleship. It is a primary economic institution in our democracy; and as such it is imbued with many of the obligations and is subject to many of the limitations which beset democracy itself.

In particular are problems of marketing consonant with the problems of making a democracy work well in an increasingly complex and interdependent industrial age -- problems that Walter Lippmann, Henry Steele Commager, the Rockefeller reports, and a host of other scholars and journals have stressed so insistently. They are problems, as I see it, which revolve around our desire that marketing serve well its producer suppliers, its own participants, and its consumer beneficiaries in a setting where our conceptual goals do not change but our tools are in a constant state of flux.

The conventional way to delineate an agency's functions is to classify and group them under a few familiar headings. This has been done very effectively for AMS activities in a recent publication, "USDA's Agricultural Marketing Service, What it is, What it does" (cf. especially page 4 as to its agency role). But I ran into trouble when I tried to group the several AMS operating programs according to a higher logical stratum, namely, the ultimate end, defined conceptually, that is to be served.

Yet one generalization holds. The AMS is conceived and dedicated to the principle of a private enterprise competitive economy as it has been described by classical scholars. Such a concept for marketing programs embraces the deepest Western ideas of equity -- equity among all comers, whether producers, marketers, or consumers; equity in trading; and equity in the sense of serving the interest of all, equally and honorably. It adheres economically to the need to conserve resources; and so physical efficiency is sought.

An functionally it is committed to the ideal of a marketing system that is as nearly self-regulating as possible. It seeks to attain this ideal by applying the Old English common law principles of what I call structural manyness and procedural morality. The first of these relates to the protection afforded by multiple agents, so that no single one can extort or monopolize -- several buyers available to the farmer, several farmers available to the buyer; several consumer outlets available to the middleman; several retailers waiting to serve the consumer; and so on. As I mentioned in my second lecture, the protection of manyness is not a perfect protection but it has the advantage of minimizing the need for governmental intervention. As procedural morality we class all our rules in trading, extending from those on formal exchanges and central markets to rules in country trading, exporting, and other types of transactions. Closely allied in classical economists' thinking, as an essential companion-piece to manyness, is accurate market information. Multiple agents are no protection if they are insulated by ignorance. Another accessory to manyness is standardization and grading. Early scholars said less about this. It has come to the fore because (1) consumers are displaying an ever increasing discrimination in their demands for food and other consumer goods; and (2) mass handling has brought a need for standardization of products.

Lastly, the classic principles that underlie AMS programs include the important one of ease of entry. Ease of entry from both sides -- by both suppliers and buyers. In the traditional view, a supplier need only present reputable goods and the buyer need be equipped only with money or a line of credit, and with a means of conveyance -- which may be his own back. Markets for farm products have been as open and accessible as any in the economy. As such their contrast with many parts of the economy becomes ever sharper, for it seems as though the trend in the nonfarm economy is to section off huge areas by some exclusive device or other. Industries, trades, professions, or industrial combinations often find ways of making entry of competitors difficult. A major policy question in the marketing of farm products concerns whether it is to adhere to the principle of ease of entry, of accessibility to all, in the same manner in the future as in the past.

In its moments of attention to its soul AMS should be concerned, I suppose, as to who its clients are. Here there surely is ambiguity. In some of its programs AMS definitely serves the interests of farmers. But seldom does it do so exclusively. This overlap among beneficiaries may cause more difficulties for organization and management specialists than for economists, as beginning with their first Principles course economists learn that in a fluid economy all gains are subject to dispersion and common benefit.

Although farmers are put under some AMS protection, they are committed to the agency's care more frequently for perishable farm products than for storable. The distinction is sound. It is entirely consistent with the differences in the price-making function that I described in a previous lecture. For major storable farm products, price support and storage have been employed to the dual ends of enhancing farmers' prices and income and giving some seasonal stability to the market. The latter goal is often referred to by the familiar but vague term of orderly marketing. Storable commodities so treated are primarily the grains, oilseeds, cotton and tobacco. Dairy products are included also. While fluid milk is perishable, the products manufactured from it are less so. (It has been necessary to convert some butter to butter oil to achieve the fully-storable category.)

The most interesting blend of objectives is found in Section 32 purchases, which combine supporting and stabilizing the market on behalf of farmers, with lifting the dietary level of sizable numbers of consumers. Designated funds are to be used to remove burdensome surpluses as they appear. Products so acquired go into direct distribution to needy families, to eligible institutions, and to schools. This is truly serving two purposes in one action. (Economists, by the way, often turn headsprings trying to decide whether these programs are "farm relief" or "welfare." I find myself impatient with both the terms and the argument. If they are one, they are also the other.)

Closely allied is aid to school lunches, including the special milk program, carried out by direct purchases therefor and by direct grants of funds.

Expansion of the market for food is being sought in another kind of program, that of Food Stamp. Food Stamp Programs are at the pilot stage, and are now in existence in 3 cities and 27 counties. They differ from direct distribution in that the food moves through retail stores and that the aid to the market for farm products is not pin-pointed as to commodities. But more importantly, Food Stamp differs in that the majority of recipients pay a portion of the cost of the food obtained by means of stamps. In this respect, it is a form of stratification of the market, embodying a principle that has been known to economists, and has intrigued them, for a long time.

Conceptual base for the programs I have just described is the need of farmers for assistance in marketing perishable products of variable and unpredictable supply, combined with our humanitarian concern that none of the citizens of so food-wealthy a country as ours should go hungry.

Market stabilization without great welfare implication is pursued in the AMS program of publicity for plentiful foods. This chiefly calls public attention to foods that are temporarily abundant, either seasonally or for other reason.

If we return to the AMS assignment of aiding orderly and more remunerative marketing in the interests of farmers, we accord a high place to programs of marketing orders and agreements. To date they have been largely confined

to fresh fruits and vegetables and fluid milk, and all have been regional rather than national. It is impossible to capsulize their methods of operation, which differ according to the nature of the individual products and their markets. However, they uniformly adhere to the principle of group-sanctioned compulsion. They are essentially cooperative, but by an affirmative vote of, typically, two-thirds of eligible producers all such producers are made subject to the agreement. Significantly, the terms of agreements and orders must have the approval of the Secretary of Agriculture. In a sense marketing agreements are distinctive in that they seek the best possible disposition of a crop without recourse to production controls. Also, the absence of a mechanism for production control has forced the makers of marketing agreements to keep their aims modest.

Marketing agreements normally take maximum advantage of the various services performed by AMS, such as grading.

Inspection for wholesomeness, principally of poultry, is a service that may be said to be in the interest of consumers proximately and of producers ultimately. Consumers want a safe product; and their confidence resulting from inspection helps to develop the market for that product.

As the use of chemicals in producing and conserving food is expanding, and as consumers are showing much concern for quality in foods, the inspection role of government will doubtless increase. Probably the Departments of Agriculture and of Health, Education and Welfare will share it.

Standardization and grading serves the consumer and helps the producer. It conforms in principle to our ethical concepts, for it assists in making distinctions in quality that make it possible to reward producers for special effort and to satisfy consumers' special wants. Grading is useful also as an aid to other processes in marketing. It especially provides a standard nomenclature for trading and for market news reporting.

Physical efficiency is sought in another AMS activity, that of research. AMS research is largely restricted to seeking better ways to preserve quality of products in marketing and to improve efficiency in physical facilities including transport, wholesaling and retailing.

The final large area of responsibility lies in market regulation. From time immemorial the farmer has resented being mulcted by a sharp-talking trader. Central government has long afforded him a degree of protection. Chief arms of AMS are the Packers and Stockyards Act and the Perishable Agricultural Commodities Act. The former relates to all livestock and poultry and their products, the latter to fresh fruits and vegetables. Without distinguishing between the two may I repeat my comment that the regulatory function embraces both forestalling monopoly in structure and prohibiting undesirable market practices.

The AMS mission may be ageless but its form and tactic are anything but that. How to keep up with changing market structure and how to adapt its programs accordingly is the most perplexing problem AMS faces. I

have time for only a few examples. Market news was originally intended and designed as a service to central markets of various kinds, including auctions. Too familiar to need annotating is the decentralization of marketing that has been underway for years. Country trading is cutting into terminal marketing of livestock. Wholesale markets for eggs now carry only a fraction of total egg trading. Direct negotiation, often between large buyers and sellers, is standard practice in broilers. Our market news people are trying heroically to adapt. Country reporters roam the feedlots and ranches of the West, reporting cattle prices. So long as farmers' sales are truly independent ones, it is possible, with enough reporters on enough wheels and with the help of the telephone, to maintain an acceptable reporting service. But if vertical integration enters in so that a high percentage of transactions are purely nominal, as is now true in some broiler areas, where are we?

Or even if not influenced by integration, any reporting of small, "thin" markets is triply dangerous. Not only may that market be reported inaccurately but the market itself may be unrepresentative of all trading that is going on; and yet its quotations may be the basis for concluding hundreds of contracts made in direct trading. Marketing of this kind is a house built on quicksand. The Market News Service should avoid being either architect or carpenter.

Market grades and standards have often been set up to represent successive degrees of "goodness." When the various Division Directors of AMS were asked recently to take a look at the future of marketing, one of their responses pointed out the changing way of viewing what is desirable in market quality -- which in turn affects the definition of grade standards. For example, new methods of processing tobacco now make good use of what have previously been considered the poorer grades. For several commodities, mass handling puts a premium on the grade that can be made available in largest and most dependable volume. That is seldom the best or poorest. Often it is a middle grade, or one just above the middle, as defined by present standards. On the other hand, increased use of convenience foods may put wholly new premiums on quality for certain foods. And if you want to let your imagination run untethered, think of the implications vending devices will have for portion control, standardization of quality, etcetera. Before long we will buy tokens or get change when we enter a supermarket and buy everything by vending machine. The machine, incidentally, will keep automatic track of movement and inventory, by Automatic Data Processing devices. Similarly, more and more prepared foods will be mechanically vended. How would you develop grade standards for such a future? Adaptability to the mechanical process, and absolute reliability of quality, will be essential criteria.

My review has been incomplete. I have omitted many AMS actions such as warehouse inspection. I have given short shrift to the entire subject of cooperation in marketing. Not mentioned are such services outside AMS as those performed by the Commodity Exchange Authority.

Nor have I dealt adequately with the most incisive institutional changes now underway in marketing of farm products, namely, the various forms of vertically integrated marketing structure, of which that for commercial broilers is only the most advanced. These changes still baffle us. We remain uncertain as to how to respond to them.

But we do know that the AMS is charged with servicing a market economy, that is to say an exchange economy, an exchange economy in the classical sense wherein there are enough buyers and sellers that each one can protect himself against exploitation. It is the protection of large numbers. Moreover, in such a market economy supporting services can be basically confined to providing market information, helping to certify and standardize products, and guarding against particular malpractices. Now we face major transformations. We don't know for certain how pervasive or deep-seated the changes are. But insofar as the classical exchange market disappears, the traditional definition of the task of AMS must change. It would be hard to service and regulate an exchange economy that no longer exists.

It seems to me that both private groups and government will have to decide which parts of the marketing system are to retain the traditional open, freely competitive structure, and which will admittedly convert to a managed or negotiated kind of marketing. Although, as I "confessed" in my second lecture, my personal set of values favors holding the exchange-market structure wherever it is feasible to do so, my professional plea is simply that we recognize the differences and make policy decisions accordingly.

Nor will the role of government necessarily be any less in those sectors in which the marketing and pricing of products is done by negotiation. It will be different. If exchange is to take place by negotiation without the safeguard of manyness it may need the help of government in a more profound sense than before. The principle of exchange has long been that goods and services are to be valued according to the intrinsic worth of their constituent factors of production -- originally labor, more recently the three or four factors. In a non-exchange economy how can that rule be followed? How can the parameters of fair and equitable exchange be estimated or simulated where exchange markets are eclipsed? If price is to be made by negotiation without alternatives how is its outcome to be appraised? What will be the criteria? Will government necessarily become no longer a catalyst but an active agent, not a servicing and surveilling but a participating agency? Will the medieval doctrine of a just price be revived?

I conclude with these remarks in order to remind as persuasively as I can that the role of a government marketing agency is framed first by the concepts held by the society it serves as to what is good and just, and

secondly by the nature of the marketing system itself. If either changes, so does the government role. In my judgment society's values remain constant but our system of marketing farm products does not. Its metamorphosis deserves searching study by the most talented minds among us, and will inevitably bring substantial revisions in the program of operations of a servicing and guardian agency such as the AMS.

The Changing Institutional Organization of Agriculture

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Although all human beings try to escape anonymity, only the least modest aspires to more than token recognition in his narrow niche. Your invitation to me to join in your academic seminars is therefore most cordial, and I am grateful for it. I hope I can bring a few useful thoughts from my world of government programs to yours of scientific inquiry and scholarship.

Last year the U. S. Department of Agriculture and the Land-Grant Colleges celebrated their common centennial. This year the Agricultural Marketing Service is noting the 50th anniversary of the marketing service programs of the Department. Those programs began with the establishment of the Office of Markets in 1913. We invite everyone to join our party.

But a century of history is much more significant than a half-century, because a century exceeds the span of individual human experience but a half-century does not. The striking feature of the USDA-Land Grant College century is that the basic character of agriculture changed so little during it. Its client has been institutionally constant. To be sure, there have been changes a-plenty, as any banquet speaker will tell you. But my argument is that the changes have been peripheral. The basic institutional form of agriculture, the independent family farm as a management unit, has been unchanging. And, I would contend, its constancy over an interval longer than most humans live can mislead as to the antiquity of its origin or the certainty of its continuation henceforth.

The family farm may be defined variously. In my judgment it is essentially an independent managerial unit that combines labor and management in a single agent and produces for a market. It is separate and independent both horizontally and vertically. Horizontally, the family farm is managerially unitary as contrasted with large scale industrial organization of specialized persons and processes. Vertically, it is disjoined from its contiguous nonfarm world of supply houses, creditors, and market firms, with which it deals through the marketplace. The vertical disassociation means that prices and returns in the marketplace have determined the remuneration the farmer receives for his work and his investment.

The family farm gained dominance as a basic institution of U. S. agriculture only after winning out over its challengers, notably the English estate. In my judgment the key forces leading to its ascendancy were these: the practice of giving land to veterans of wars, which got the Federal government into a habit; the Civil War, which dealt a blow to the

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Southeastern plantation system as a competitive form of organization; the seemingly limitless area of land available (it is easy to give away that which is free); and the national and State policies of internal improvements which provided rail, canal, and roadway communication with new lands. All facilitated the rise of the family farm to dominance.

And so by the latter 1800's it became possible for millions of American farmers to realize the dream of ages, the chance to acquire and farm land of their own.

It is worth our time to consider the roots of those historic aspirations. They were dual. They were economic and political. Economically, over most of history the supply of productive land has been fixed and limited. This was surely true of the Old World. This fact dominated valuation in agriculture, and for centuries land was able to command the premium return that a fixed factor of production always can extract at the expense of the variable -- that is to say, to elicit the unearned income called rent. 1/ In Old Europe the struggle to gain access to a parcel of land led to the subservient relationships, partly political in nature, that we broadly class as feudalism. In them the economic reward to tillers of the soil was perhaps governed as much by convention as by market forces.

The opportunity to till land of one's own: An ancient dream. Also a modern one. It is a present-day aspiration and political force of immense proportions in the Middle East and Latin America, for instance. Significantly, we endorse that yearning in those nations and even offer help toward realizing it.

As the United States met the demand for fee-simple ownership of land a century ago, its problems today are not those of Iran and Peru. They are different problems. One reason they are different is that we have also attained that other goal of those underdeveloped agrarian nations, namely, an advanced industry. Industry has increasingly borne on agriculture by making its products available to its production. The big question now faced is whether industry will also convey its forms of organization and its managerial techniques to agriculture.

It may be strange that the question is arising so late. Historically, the United States was already taking big industrial steps forward at the time it settled on small-unit organization of agriculture. Moreover -- and I find deep irony in this -- it rejected emerging industrial forms as the fundamental unit in agriculture notwithstanding the fact that early advances in agriculture had much to do with the birth of modern industry. A developing agriculture of the later Middle Ages, including the enclosure movement, by contributing labor for the new industry was at least foster parent to it. After flirting briefly with the cottage system the new industry quickly developed a character of its own. To date agriculture has not extensively modeled after it. The pupil has not instructed the teacher, nor has the progeny remade the parent.

1/ This refers to true rent, not the quasi-rent that is so common today and is essentially an amortization of invested capital.

Not only the emotional appeal of land-to-till accounts for the survival of small-unit structure of farming. Economic factors have been conducive to it too. Farming is extensive; it is space-consuming. Its initial products are bulky. There is economy in setting up headquarters close to the acreage to be cultivated and in minimizing transport of raw product. Converting feedstuffs to livestock products on the farm where produced has long been a major source of economy in transport.

Furthermore, farming has traditionally been a two-factor enterprise. Economists usually classify all resources into three or four factors of production: land, labor, and capital, with management sometimes named as a separate factor. Historically farming has combined management and labor in a single person and it has used little capital. It has been essentially an enterprise of labor and land. It doesn't matter whether we think in terms of ancient tribal structure of agriculture, or of the feudal estate of Middle Ages, or of the independent yeoman who was prototype to the modern family farmer: in all cases, essentially land and labor were combined, and in all cases there was virtual self-sufficiency as to outside resources used.

A two-factor agriculture aided small-farm organization directly in that the difficulty in transporting the few capital goods used (i.e., farm supplies) to remote locations was not unduly great. The near self-sufficiency of family farms made it easier for them to be small and isolated.

Agriculture has year by year lost its earlier distinctive character of a two-factor enterprise. The extent and implications of the transformation form the theme of this paper. The change is essentially that of adding a third factor, capital. That change puts agriculture squarely in the middle of the long process of economic development, a process that has reached an advanced state in our nation and is being cultivated so eagerly in many parts of the world.

Over the ages the long striving of man has been to free himself from the shackles of his environment, to be not the victim but the master of the nature which surrounds him. Early man was little more than a forager. His total economy was surely two-factor; it was confined to man and land. Moreover, man was strictly circumscribed by pre-existing resources, including his own knowledge and skills.

The long course of economic development consists of the emancipation wrought through man's struggle to develop tools and processes to serve his material needs. These embraced capital goods, which are simply natural resources recast in a form employable for further production, and his own education. As man succeeded in this line of action his economic destiny became no longer rigidly pre-determined by natural resources in their raw form, including his own talents, but by his achievements in recasting them. This is the heart of man's incessant effort and search to improve his physical environment.

The process of putting capital goods to work for us picked up speed during the industrial revolution. And as this was done, scholars took note. Awareness of new industry began to shape new economic thought. One of the remarkable coincidences in history is that Adam Smith published his Wealth of Nations in the same year, 1776, that Isaac Watt invented the steam engine -- which also was the year of the Declaration of Independence.

In an earlier paper I remarked on the opposite interpretations given two centuries ago to the observed phenomenon of inconstant returns when labor was applied to land. The Physiocrats saw it as evidence of the bounty of land, the English school as possible evidence of extortion by landlords. At any event, insofar as man could reproduce himself but could not reproduce land, and in that sense was himself variable, he made his own earnings subject to the dismal destiny that awaits any variable factor which must be combined with a fixed.

But labor gradually was relieved of the unwelcome distinction of being the only factor possessed of variability. Capital became the important new variable. As it did so, perception arose of the principle that was to dominate economic theory for a century, that of diminishing marginal physical returns in production. Ricardo sensed it, his successors saw and named it. The principle was of strictly agricultural derivation, examples being found in variable rates of applying fertilizer to grain land. Even today it bears agricultural connotations. I have had occasion in my writings to taunt professors of economics -- general economics, business economics, and others -- who cite wheat and fertilizer for pedagogical illustrations even though they would recognize neither were they to find samples in their classroom.

The 19th century was an era when economists switched their allegiance from agriculture to industry. Revolutionary discovery was that in combinations among capital goods, diminishing returns vanished. The new observation was called economy of scale. Its implications impelled whole new fields of theoretical exploration, including those of imperfect competition and monopolistic competition. Insofar as diminishing returns remained, it was in limitations seen to human capacity in management. Hence was management increasingly tabbed as a separate factor of production (and an important one in determining size of enterprise).

After a century or more when industry scarcely touched agriculture, it is now almost reforging it. Central to the change is conversion of farming to a three-factor enterprise instead of two. First it was the reaper and barbed wire and the windmill. Later came the tractor and new harvesters, and then electric power for the farmstead. More recently we have insecticides and fungicides, and urea and diethylstilbestrol and defoliates and vaccines and greatly expanded use of chemical fertilizer.

The statistics are impressive. Mr. Barton and Mr. Locmis of USDA, in an excellent recent bulletin, estimate that as recently as 1940 about 66 percent of total inputs in agriculture were land and farm-resident labor.

By 1961, only 37 percent were of those classes. This is a tremendous change to have occurred within so brief a time.

Economists are terribly prone to overuse of catchwords -- words of all work, words that become apologetics for the conservative and protective for the ignorant. Technology is such a word. The Goodmans call it a sacred cow; "People are remarkably superstitious about it," they say. Technology is being used to credit all that aids agriculture and to discredit all that ails it. Educational institutions have tended to describe technology as a process of education. I propose that technology in agriculture pertains essentially to the employment of new capital resources in agriculture. Education has both induced their introduction and counselled their application. Land Grant universities and experiment stations and the U. S. Department of Agriculture have set a record of education in use of new technology that is phenomenal. Yet technology is basically the introduction of new capital.

The truly significant feature of the new resources in agricultural production, it seems to me, is that their supply is expansible. Capital is itself the product of production and is by definition capable of being reproduced. Moreover, most capital inputs of agriculture are reproducible almost without limit. They come to agriculture at almost constant cost. This is particularly true of inputs for which agricultural use is only a fraction of total use, as of gasoline. How much would a 10 percent rise in farmers' demand for gasoline affect the price we all pay at filling stations? Not materially, we can be sure.

Capital goods are the creation of ingenious man. Their almost limitless potential productivity opens wonderful vistas for all who dream of a more comfortable world for mankind. But because capital goods are man's brainchild they are peculiarly sensitive to his capacity to control them. Conjure up metaphors of the sorcerer's apprentice, Aladdin's genii, Frankenstein's monster, as you choose -- whatever your selection, the meaning is the same. We can produce the tools. Can we manage them?

As agriculture accepts capital as a third factor in its production it implicitly takes on many of the attributes of industry and assumes many of its problems as well. It falls heir most of all to the greater problems of management that accompany use of capital. A three-factor agriculture sharpens our concern for the nature and adequacy of its institutions. Institutions are themselves man-made. It opens up questions such as what is to be the managerial unit; the managerial system; the managerial mechanism that gives direction, achieves stability and equilibrium for the agricultural economy. And of course, it invites attention to issues as to the proper role of government.

I don't think we have recognized these changes sufficiently in our thinking about agricultural policy. The two big instigations to new policy during the present century were the loss of foreign demand in the 1920's and of domestic demand in the 1930's. I think the issue today is altogether different; it revolves around the adequacy of older institutions to manage a reconstituted agriculture. This is not to presuppose that

they are inadequate, but to attempt to define the problem. My argument with those current schools of thought that oppose all government price programs for agriculture on principle is not that their answer is necessarily wrong, but that so often their arguments rest on outdated premises. Issues of today, for example, bear little relation to the depression-born problems of 1933. Whether pre-1933 institutions would be appropriate to the new agriculture of today is a question not resolvable by historical invocations.

A lot can be said about the features of an industrial agriculture. They replace many of distinctive qualities of the old agriculture. For years economists asked themselves whether agricultural economics is a branch of general economics or a separate area, akin to farm management. In a new age, its economics is a part of general economics whether it calls itself that or not. But the production side, production economics, is totally indifferent to disciplinary lines. It combines so-called physical-production data with economic concepts in a way that disregards arbitrary lines of distinction.

Similarly there are sociological implications. They relate to how people work and live. The internal combustion engine lets farmers go to town but also lets town people live in the country. Geographic distinctions are no longer identical with occupational ones. Secretary Freeman has proposed calling USDA the Department of Food, Agriculture and Rural Life. In modern times, there is reason to the proposal.

There is an obvious problem for the Extension Service. How are its clients to be identified?

I believe the economics of a more industrial agriculture in a more industrial society to be shaped by two principal factors. First, the production function and production response within agriculture have changed. Second, primary agriculture finds itself ever farther removed from the consumer.

I shan't try to capsulize changes in production functions except to note that each new capital good alters it. In production of crops from soil diminishing returns still govern but their autocracy has doubtless been weakened. In production of livestock from feedstuffs -- which is a separate, secondary enterprise -- we have begun to see some evidence of economies of scale.

But whatever has happened to the production function, the supply response surely has changed. Access to capital inputs in almost limitless quantity -- their supply elasticity to agriculture is almost infinite -- gives to agriculture a capacity for responsiveness exceeding anything ever known before. It therefore magnifies the problem of managing the use of resources -- that is, of managing them in furtherance of some goal of production or price that is desired. It throws the spotlight, bright and searching, on the institutional forms by which the farm economy is given direction. When each year's rainfall largely governed aggregate output of agriculture, man didn't have too great a managerial job. Now that use of petrochemicals influences output, his task is more difficult.

Parenthetically, this redesign of the supply response bears on the construction of federal programs of supply control. In many programs land alone has been relied on as the input to be manipulated. Insofar as support prices are at incentive height, the increased use of capital inputs that is thereby induced counteracts the effect of land retirement on volume of output. There is almost tragic humor in the common lament that when farmers retire some land under federal contract they busy themselves in extracting more production per acre from remaining acres -- as though they conspire to undercut the program. More probable is that they are responding to support prices in their allocation of capital inputs.

Industrialization of agriculture is only a part of industrialization of our whole economy. One of the manifestations is in the marketing system. Marketing has grown at the expense of production. More and more processing, selection, packaging -- even pre-cooking -- are now given farm products before they reach the consumer. For some, reconstitution is so great that it is scarcely accurate to retain the image of farm products moving through successive stages. Those products are changed into something else. Without developing this theme at length, as it is already familiar to you, may I call attention to the principal consequence, that demand at the farm has become ever more remote from consumer demand. It has especially become less elastic. Due both to this change and to a more exacting, inflexible behavior by consumers themselves, farmers no longer can see the consumer market as a big feather pillow, ready to absorb the erratic variations in their production of foodstuffs -- variations seasonal, cyclical, climatic, political, and perhaps even fickle. The demand target against which farmers must plan their affairs is now a rather unresilient one.

And so the farm economy of today is epitomized in a more elastic supply facing a more inelastic demand. In an atomistic agriculture the demand curve for each farm's output is perfectly horizontal; but if agriculture as a whole cannot meet the test of stability the level of that curve for each farm can bob up and down erratically. Again we ask our questions as to institutions; we ask about institutions of independent management of the family farm, institutions of government bearing on agriculture, institutions of marketing that, in instances of vertical integration, assume to themselves some managerial control over farm production. The family farmer is both laborer and manager. Can he be trained for the greater managerial competencies now called for? State universities, experiment stations and extension services have set a wonderful record of sideline coaching in production techniques. Their record on the economic side is less auspicious. Can they do better in the future?

Social instruments: I have tried to set the stage for considering their role and design, not for naming conclusions. May I end with only two further comments. Let me remind that primary agriculture is not yet divorced from the soil. The governing role of land has perhaps been compromised but it has not been obliterated. It seems to me that this casts the issue of farm programs into two wholly different lights. One views programs as a means to offset the instability in farm output resulting from the uncontrollable natural element that remains in production

-- primarily its susceptibility to climatic variations. The altogether opposite viewpoint of farm programs relates to their function in harnessing the tremendous productive powers of industrial agriculture. In other words, in managing it. That is to say, if farm programs are needed for this purpose, they become a protection against instability chargeable to errors of individual and collective man.

Present farm policy is a medley of the two. Crop insurance protects against a quixotic nature. The AAAct of 1938 was an interesting combination of both objectives. The Ever Normal Granary portion guarded, like crop insurance, against a variable nature. But the provisions for flexibility in both acreage allotments and level of price support were instruments to bring volume of production under management by man.

Federal programs are themselves a part of the institutional structure of agriculture. If modern technology cannot be harnessed without help, Federal programs to provide it probably are protective of the existing organization, which is that of the family farm. It some kinds of vertical integration remove management control from the farmer, it would be possible to invoke the power of government to influence the terms of integration.

Perhaps the part of agriculture most vulnerable to instability is the production of raw products that are most distantly removed from the consumer market, both in their form and in relative values. Few raw products outside agriculture avoid some kind of administrative control over production. Crude petroleum is a geographically relevant example. It is not mere chance that the farm commodities most consistently made subject to acreage control programs, such as wheat and cotton, are those of the category I have named.

One school of thought, one with not a few adherents, declares that large-scale corporate-type agriculture is the only kind that is suited to an industrial age. Huge poultry farms and commercial cattle feedlots are viewed in this context. Yet we repeatedly point accusing fingers at the collective-farm system of Iron Curtain nations, pronouncing judgments on how intrinsically faulty that system is as compared with ours. There is inconsistency in these two points of view.

Finally, the independent family farm of the last century has been more than an economic unit. Not only did its origins include yearnings of political nature, but it has been a seat of industriousness, self-reliance and other qualities that John Brewster tells us were both a traceable legacy from earlier times and appropriate to their own. This subject too I only open up in order that it may not be victim of undeserved omission. But I accord it utmost respect. I am short tempered with agricultural economists who disparage the non-economic considerations in agricultural institutions. A few even are guilty of satire or mockery. It may be necessary to bypass aspects of a problem that lie outside one's disciplinary competence but it is inexcusable to deprecate them. Former Secretary Wallace made the papers recently with a statement that he wonders how long this nation can exist when a mere 5 percent of its children are exposed to the kind of discipline possible only on a farm. I don't know, but I wonder too.